

REMARKS

The Office Action dated November 30, 2006 has been carefully considered. Claims 1 and 2 have been amended. Claims 12-26 have been canceled. Claims 1-11 are in this application.

Support for the amendment to claim 1 is found throughout the specification and in particular on page 29, line 29 through page 30, line 1; page 32, lines 26-28 and Fig. 1. No new matter has been entered.

35 U.S.C. § 112

Claim 2 was rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. Antecedent basis has been provided for a concentration of maleic acid.

35 U.S.C. § 102

The previously presented claims were rejected under 35 U.S.C. § 102(b) as anticipated by U.S. Patent No. 6,252,110 to Uemura et al. in view of Kirk-Othmer in view of U.S. Patent No. 6,409,886 to Matsumoto et al. This rejection is traversed. Uemura et al., Kirk-Othmer, or Matsumoto et al. do not teach key elements recited in the invention as currently claimed.

In the process of the present invention, acrylic acid obtained at a thermal decomposition tank 51 is returned to an azeotropic dehydration column 30 through a maleic acid separation column 46.

Uemura et al. teach that acrylic acid obtained by thermal decomposition (at a pyrolyzing tank 4) is returned to a high boiling impurities separation column 1 (through a thin film vaporizer 3 and a distillation column 2). However, Uemura et al. do not teach or suggest the step of supplying the acrylic acid recovered by thermally decomposing an acrylic acid oligomer to an azeotropic dehydration column.

As described on page 5, lines 12-19, the efficiency of production of acrylic acid can be improved by a step for supplying the acrylic acid recovered by thermal decomposition of the oligomer to a step for dehydration.

In contrast to the invention defined by the present claims, Uemura et al. do not teach or suggest the step of supplying the acrylic acid recovered by thermally decomposing an acrylic acid oligomer to an azeotropic dehydration column. Rather, Uemura et al. teach that acrylic acid

is returned to a high boiling impurities separation column and not to an azeotropic dehydration column.

Matsumoto et al. teach a method for inhibiting polymerization of any easily polymerizable compound contained in the liquid by spraying the liquid against a constitutive member of the apparatus while contacting the sprayed liquid with a gas containing molecular oxygen. However, Matsumoto et al. do not teach or suggest thermal decomposition of acrylic acid oligomer. Furthermore, Matsumoto et al. do not teach or suggest the step of supplying the acrylic acid recovered by thermally decomposing an acrylic acid oligomer to an azeotropic dehydration column.

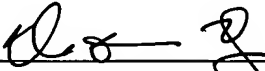
Kirk-Othmer teach to feed polymerization inhibitors to the process. However, Kirk-Othmer do not teach or suggest the step of supplying the acrylic acid recovered by thermally decomposing an acrylic acid oligomer to an azeotropic dehydration column.

Accordingly, neither Uemura et al., Kirk-Othmer, or Matsumoto et al. teach the step of supplying an acrylic acid recovered by thermally decomposing the acrylic acid oligomer to an azeotropic dehydration column and the invention defined by the present claims is not anticipated by either Uemura et al. or Matsumoto et al.

In view of the foregoing, Applicants submit that all pending claims are in condition for allowance and request that all claims be allowed. The Examiner is invited to contact the undersigned should he believe that this would expedite prosecution of this application. It is believed that no fee is required. The Commissioner is authorized to charge any deficiency or credit any overpayment to Deposit Account No. 13-2165.

Respectfully submitted,

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